
SECTION 10

WATER RESOURCE PROTECTION OVERLAY DISTRICT

10-A. PURPOSES

- (1) To protect, preserve and maintain the existing and potential groundwater supply within the known aquifers of the Town.
- (2) To preserve and protect present and potential sources of water supply for the public health and safety.
- (3) To conserve the natural resources of the Town.

10-B SPECIAL DEFINITIONS

The following definitions apply to specialized words and terms associated with this District:

- (1) **AQUIFER** -Geologic formation composed of rock or sand and gravel that contains significant amounts of potentially producible potable water.
- (2) **AREA OF INFLUENCE** - The area which experiences draw down by a pumping well as plotted on a 2 dimensional (map) surface.
- (3) **CONE-OF-DEPRESSION** - A 3 dimensional conical concavity produced in a water table by a pumping well.
- (4) **GLACIOFLUVIAL** - Pertaining to an unconsolidated geologic deposit which was formed by, or in association with glacial melt water streams, typically resulting in the deposition of sand and gravel-sized particles.
- (5) **GLACIOFLUVIAL / LACUSTRINE** - Pertaining to an unconsolidated geologic deposit which was formed by, or in association with the transition zone where glacial melt water streams flowed into a glacial lake environment, typically resulting in the deposition of sand, silt and clay-sized particles in a fining downward sequence. References to such deposits within this by-law refer to the more coarse-grained sediments such as would be associated with a delta.
- (6) **GLACIOLACUSTRINE** - Pertaining to an unconsolidated geologic deposit which was formed by, or in association with a glacial lake environment, typically resulting in the deposition of sand, silt and clay sized particles. References to such deposits within this by-law refer to the fine-grained sediments such as would be associated with lake bottom deposits.
- (7) **GOVERNING WATER DISTRICT** - The person or persons responsible for the daily operation and maintenance of the town water supplies.
- (8) **GROUNDWATER** - The subsurface water present in aquifers and recharge areas.
- (9) **IMPERVIOUS SURFACE** - Material on the ground that does not allow significant amounts of surface water to penetrate into the soil.
- (10) **LEACHABLE WASTES** - Waste materials including solid wastes, sludge, and agricultural wastes that are capable of releasing water-borne contaminants to the surrounding environment.

- (11) **MINING OF LAND** - The removal of geologic materials such as topsoil, sand and gravel, metallic ores, or bedrock.
- (12) **PRIMARY RECHARGE AREAS** - Areas that collect precipitation or surface water and directly transmit it to aquifers or areas of pumping influence.
- (13) **PROCESS WASTES** - Non-domestic, nontoxic, nonhazardous, liquid or solid waste by-products associated with the manufacture or preparation of a product, including but not limited to hardware, dry goods, foodstuffs, and printed material.
- (14) **SANITARY WASTE** - Wastewaters arising from ordinary domestic water use as from toilets, sinks and bathing facilities, and containing such concentrations and types of pollutants as to be considered normal wastes. For purposes of this by-law, all references to disposable volume(s) of sanitary wastes refer to design standards as outlined in Title V of the State Environmental Code.
- (15) **SATURATED THICKNESS** - The depth of permeable soil actually saturated with water to the capacity of the soil to contain water under normal conditions of temperature and pressure.
- (16) **SECONDARY RECHARGE AREAS** - Areas that collect precipitation or surface water and indirectly transmit it to aquifers or areas of pumping influence.
- (17) **SOLID WASTES** - Any discarded solid material, putrescible or nonputrescible consisting of all combustible and noncombustible solid material including, but not limited to, garbage and rubbish.
- (18) **STRATIFIED DRIFT RECHARGE AREAS** - Areas composed of permeable, porous materials that collect precipitation or surface water and transmit it to aquifers.
- (19) **TILL RECHARGE AREAS** - Areas composed of low permeability materials that collect and transmit precipitation primarily via surface water runoff to adjacent aquifers.
- (20) **TOXIC OR HAZARDOUS MATERIALS** - Any substance or mixture of physical, chemical, or infectious characteristics posing a significant, actual, or potential hazard to water supplies or other hazards to human health if such substance or mixture were discharged to land or water in the Town of Walpole. Toxic or hazardous materials include, without limitation, synthetic organic chemicals, petroleum products, heavy metals, radioactive or infectious wastes, acids and alkalis, and all substances defined as Toxic or Hazardous under Massachusetts General laws (M.G.L. Chapter (c.) 21C and 21E and 310 CMR 30.00) and also include such products as pesticides, herbicides, solvents and thinners in quantities greater than normal household use.
- (21) **TRANSMISSIVITY** - The rate at which water is transmitted through a geologic unit measured in feet squared per day.
- (22) **WETLANDS** - As defined by M.G.L. Chapter 131, Section 40. Also refer to Section 4-C-3-b of this By-law.

10-C ESTABLISHMENT AND DELINEATION OF WATER RESOURCE PROTECTION OVERLAY DISTRICT

- (1) For the purpose of this district, there are hereby established within the Town, certain aquifer protection areas, consisting of aquifers, well pumping areas and aquifer recharge areas. These areas are determined by standard geologic and hydrologic investigations which may include drilling observation wells, utilizing existing boring data and stratigraphic profiles, conducting seismic surveys or other geophysical techniques, performing pumping tests, water sampling, geologic mapping, and computer modeling.

- (2) The boundaries of this district are delineated on maps at a scale of 1"=1200' entitled "Water Resource Protection Overlay District, Town of Walpole, MA" on file in the office of the Town Clerk, which maps are hereby made part of this bylaw. These boundaries reflect the best hydrogeologic information available as of the date of the maps.
- (3) When the exact location on the ground of the Water Resource Protection District (WRPOD) boundary is in doubt or dispute in relation to a particular parcel or lot shown on the WRPOD map to be at or near said boundary, the Building Inspector shall determine the boundary location, in accordance with the method contained in Section 2-C(4), by the distance in feet, if given, from other lines upon map, or, if distances are not given, then by the scale of the map.
- (4) The Water Resource Protection District includes the Aquifer's significant areas of recharge consisting of
 - (a) **Zone I Wellhead Protection Area**
 - (1) The protective radii around public water supply wells and wellfields as defined by 310 CMR 22.02.
 - (b) **Area 1 Area of pumping influence of all existing municipal wells within the Town. Confirmed by long-term pump test or by stabilized water levels after maximum duration pumping.**
 - (1) The cones-of-depression and respective areas of influence and recharge generated by the municipal wells after at least ninety (90) days of continuous pumping at the currently utilized capacities. (May be based upon computer modeling.)
 - (2) Located within Area I is Zone I. Zone I are the protective radii around public water supply wells and wellfields which are defined by 310 CMR 22.02.
 - (c) **Area 2 Potential Water Supply Area**
 - (1) Buried river stratified drift deposits with greater than 40 foot thickness.
 - (d) **Area 3 Primary Recharge Area**
 - (1) Buried river stratified drift deposits with less than 40-foot thickness and upgradient of Areas I and 2.
 - (e) **Area 4 Secondary Recharge Area**
 - (1) Upgradient areas consisting of till and other materials which contribute groundwater or surface water drainage to Areas 1, 2, or 3.

10-D USE REGULATIONS

The Water Resource Protection Overlay District shall be considered as overlaying all other zoning districts within its boundaries. Within the Water Resource Protection Overlay District any use permitted in the underlying district shall be subject to that district's regulations and to the following additional regulations:

- (1) The following uses are permitted within the Water Resource Protection Overlay District provided all necessary permits, orders, or approvals required by local, state or federal laws shall have been obtained
 - (a) **Zone I -**
 - (1) Conservation of soil, water, plants, and wildlife;
 - (2) Outdoor recreation nature study, boating, fishing, and hunting where otherwise legally permitted;
 - (3) Landings, foot, bicycle and/or horse paths, and bridges;
 - (4) Normal operation and maintenance of existing water bodies and dams, splash boards, and other water control, supply and conservation devices;
 - (5) Construction, maintenance, repair, and enlargement of drinking water supply related facilities such as, but not limited to, wells, pipelines, aqueducts, and tunnels.
 - (b) **Area I (beyond those portions identified as Zone 1) and Area 2.**
 - (1) All uses allowed in Zone I
 - (2) Maintenance, repair, and enlargement of any existing structure, subject to Section 10-D-(2) prohibited uses and Section 10-D-(3) special permit uses;
 - (3) Farming, gardening, nursery, conservation, forestry, harvesting and grazing, subject to Section 10-D-(2) prohibited uses and Section 10-D-(3) special permit uses;
 - (4) Residential development of single family dwellings if such dwelling is connected to or is to be connected to the public sewer at the time of construction, such that no more than 15% or 2,500 square feet, whichever is greater, of the building lot is rendered impervious. All roof runoff from new construction or any addition to an existing residence that adds more than 600 square feet of impervious cover to a building shall be recharged to the groundwater. The recharge system shall be designed by a Registered Professional Engineer and shall be capable of recharging at least the first one-inch (1") of rainfall from the roof.

- (5) Residential development of single family dwellings with on-site domestic sewage disposal on lots of at least 80, 000 square feet in area, such that no more than 15% or 2,500 square feet, whichever is greater, of the building lot is rendered impervious and on-site domestic sewage disposal does not exceed one hundred and ten (110) gallons per day per 20, 000 square feet of lot area. All roof runoff from new construction or any addition to an existing residence that adds more than 600 square feet of impervious cover to a building shall be recharged to the groundwater. The recharge system shall be designed by a Registered Professional Engineer and shall be capable of recharging at least the first one-inch (1") of rainfall from the roof.

(c) Areas 3 and 4

- (1) All uses allowed in Zone I, Area 1, and Area 2
- (2) Commercial development limited to retail shopping, business or professional offices or industrial development on lots of at least 40, 000 square feet in area such that no more than 15% or 2,500 square feet, whichever is greater, of the building lot is rendered impervious or to the extent of impervious coverage permitted in the underlying district subject to the special permit requirements of Section 10-(D)-(3)-(d), and such that on-site sewage disposal is less than or equal to 110 gallons per day per 10, 000 square feet of lot area.
- (3) Residential development of single family dwellings with on-site domestic sewage disposal on lots of at least 80, 000 square feet in area, such that no more than 15% or 2,500 square feet, whichever is greater, of the building lot is rendered impervious. All roof runoff from new construction or any addition to an existing residence that adds more than 600 square feet of impervious cover to a building shall be recharged to the groundwater. The recharge system shall be designed by a Registered Professional Engineer and shall be capable of recharging at least the first one-inch (1") of rainfall from the roof.

(2) Prohibited uses:

(a) In all Zones and Areas:

- (1) Landfills and open dumps as defined in 310 CMR 19.006;
- (2) Automobile graveyards and junkyards, as defined in M.G.L.c.140B, §1;
- (3) Landfills receiving wastewater and/or septage residuals including those approved by the state Department of Environmental Protection pursuant to M.G.L. c. 21, §26 through 53; M.G.L. c. 111, §17; M.G.L.c. 83, §6 and 7, and regulations promulgated thereunder;
- (4) Facilities that generate, treat, store, or dispose of hazardous waste that are subject to M.G.L.c. 2 IC and 310 CMR 30.00, except for the following.
 - (a) very small quantity generators as defined under 310 CMR 30.000;
 - (b) household hazardous waste centers and events under 310 CMR 30.390;
 - (c) waste oil retention facilities required by M.G.L.c. 21, § 52A;
 - (d) water remediation treatment works approved by DEP for the treatment of contaminated ground or surface waters,
- (5) Petroleum, fuel oil, and heating oil bulk stations and terminals including, but not limited to, those listed under Standard Industrial Classification (SIC) Codes 5171 and 5983. SIC Codes are established by the US Office of Management and Budget and may be determined by referring to the publication, Standard Industrial Classification Manual, and any other subsequent amendments;
- (6) Storage of liquid hazardous materials, as defined in M.G.L. c. 21E, and/or liquid petroleum products unless such storage is:
 - (a) above ground level, and;
 - (b) on an impervious surface, and
 - (c) either
 - (d) in container(s) or above ground tank(s) within a building or;
 - (i) outdoors in covered container(s) or above ground tank(s) in an area that has a containment system designed and operated to hold either 10% of the total possible storage capacity of all containers, or 110% of the largest container's storage capacity, whichever is greater;
- (7) Storage of sludge and septage, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31;
- (8) Storage of deicing chemicals unless such storage, including loading areas, is within a structure designed to prevent the generation and escape of contaminated runoff or leachate

- (9) Storage of animal manure unless covered or contained in accordance with the specifications of the Natural Resource Conservation Service;
- (10) The removal of soil, loam, sand, gravel or any other mineral substances within four feet of the historical high groundwater table elevation (as determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey), unless the substances removed are redeposited within 45 days of removal on site to achieve a final grading greater than four feet above the historical high water mark or greater than the original topographical elevation, whichever is less, and except for excavations for the construction of building foundations or the installation of utility works, including but not limited to retention or detention recharge systems or wetland replication as governed by the Massachusetts Wetlands Protection Act, M.G.L.c. 131, §40.
- (11) Discharge to the ground of non-sanitary wastewater including industrial and commercial process waste water, except:
 - (a) the replacement or repair of an existing treatment works that will not result in a design capacity greater than the design capacity of the existing treatment works;
 - (b) treatment works approved by DEP designed for the treatment of contaminated ground or surface water and operating in compliance with 314 CMR 5.05(3) or 5.05(13);
 - (c) publicly owned treatment works;
- (12) Stockpiling and disposal of snow and ice containing deicing chemicals brought in from outside the district;
- (13) Storage of commercial fertilizers, as defined in M.G.L. Chapter 128, §64, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
- (14) any solid waste handling, transfer or storage facility.
- (b) In Areas 3 and 4: In addition to the uses prohibited in all Water Resource Protection Overlay Districts, the following are prohibited in Areas 3 and 4.
 - (1) Disposal of solid wastes, other than brush and stumps, natural soils and natural stone;
 - (2) The disposal of liquid or leachable wastes other than sanitary domestic wastes or innocuous process wastes, or runoff water for on-site recharge;
 - (3) Metal plating and etching;
 - (4) Chemical and bacteriological laboratories.
- (c) In Area I (beyond those portions identified as Zone I) and Area 2: In addition to the uses prohibited in all Water Resource Protection Overlay Districts, the following are prohibited.
 - (1) Land uses resulting in the disposal of any waste material, solid or liquid, other than domestic sanitary wastes or runoff water for onsite recharge, natural soils or natural stone.
 - (2) Any use involving the sale, storage, transportation of fuel, oil or gasoline;
 - (3) Uses which, as part of normal operating or maintenance procedures, would involve the application, transfer, storage or use of toxic or hazardous materials in greater than household quantities;
 - (4) The commercial mining of land; and
 - (5) All uses prohibited in Areas 3 and 4.
- (d) Zone I
 - (1) All uses not permitted in Zone I are prohibited
 - (2) Underground storage tanks related to water supply facilities are not categorically permitted.
- (3) The following uses are permitted only under the terms of a Special Permit:
 - a) Expansion of existing or nonconforming uses to the extent allowed by the underlying district The Board of Appeals shall not grant such approval unless it shall find that such expansion shall not be substantially more detrimental to the water supply than the existing use.
 - b) Those activities that involve the handling of toxic or hazardous materials in quantities greater than those associated with normal household use, if permitted in the underlying zoning district (except as prohibited under Section 10-D-(2). Such activities shall require a special permit to prevent contamination of ground water;
 - c) In Area 3 and 4, any uses other than a single-family dwelling with a sewage flow, as determined by Title 5 of the State Environmental Code (3. 10 CMR 15. 00), exceeding 110 gallons per day per 10, 000 square feet of lot area or exceeding 15, 000 gallons per day regardless of lot area;

- d) Any non-residential use that will render impervious more than 15% or 2,500 square feet of any lot, whichever is greater, but not more than the impervious coverage permitted in the underlying district. This Special Permit shall provide ground water recharge to the extent practicable and proper treatment of stormwater runoff. A system for groundwater recharge must be provided which does not degrade ground-water quality. Recharge shall be by leaching fields, leaching trenches, storm water infiltration basins or similar system covered with natural vegetation, and dry wells shall be used only where other methods are infeasible. All such basins and wells servicing parking areas and driveways shall be preceded by oil, grease, and sediment traps to facilitate removal of contamination. Any and all recharge systems shall be permanently maintained in full working order by the owner.
- e) Any residential use that will render impervious more than 15% or 2,500 square feet of any lot, whichever is greater, provided the plan calls for an onsite method of recharging proposed increases of runoff water. The recharge system shall be designed by a Registered Professional Engineer and shall be capable of recharging at least the first one-inch (1") of rainfall.

(4) Procedures for Issuance of Special Permit

- (a) Each application for a special permit shall include:
 - (1) A complete list of all chemicals, pesticides, fuels, and other potentially toxic or hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use, accompanied by a description of measures proposed to protect all storage containers/facilities from vandalism, corrosion, and leakage, and to provide for control of spills;
 - (2) A description of potentially toxic or hazardous wastes to be generated, indicating storage and disposal methods;
 - (3) Evidence of approval by the Massachusetts Department of Environmental Protection (DEP) of any industrial waste treatment or disposal system or any wastewater treatment system over 15,000 gallons per day capacity;
 - (4) For underground storage of toxic or hazardous materials, evidence of qualified professional supervision of system design and installation;
 - (5) Analysis by a technically qualified expert certifying that the integrity of the underlying groundwater resources will not be degraded to the point whereby a hazard to public health or significant ecological damage results
- b) Each application for a Special Permit shall be filed with the Town Clerk for transmittal to the Zoning Board of Appeals and shall be accompanied by nine (9) copies of the plan. Such plans shall be drawn in accordance with Section 3-C-4 (a and b) and Section 7-A.
- c) Upon receipt of the Special Permit application, the Board of Appeals shall transmit one copy each to the Board of Health, Board of Selectmen, Building Inspector, Conservation Commission, Planning Board, Sewer & Water Commissioners, Town Engineer and Fire Chief for their written recommendations. Failure to respond in writing to the Clerk of the ZBA within 35 days shall indicate lack of opposition by said agencies. The Board of Appeals shall explain any departures from the recommendations of the other Town agencies in its decisions.
- d) The ZBA shall hold a hearing, in conformity with the provisions of M.G.L. Ch. 40A, Section 9, within 65 days after the filing of the application with the Special Permit granting authority.

Notice of the public hearing shall be given by publication and posting and by first-class mailings to "parties in interest" as defined in M.G.L. Ch. 40A, Section 11. The decision of the ZBA and any extension, modification or renewal thereof, shall be filed with the Special Permit granting authority and Town Clerk within 90 days following the closing of the public hearing. Failure of the Special Permit granting authority to act within 90 days shall be deemed as a granting of the permit. However, no work shall commence until a certification is recorded as required by said Section 11.